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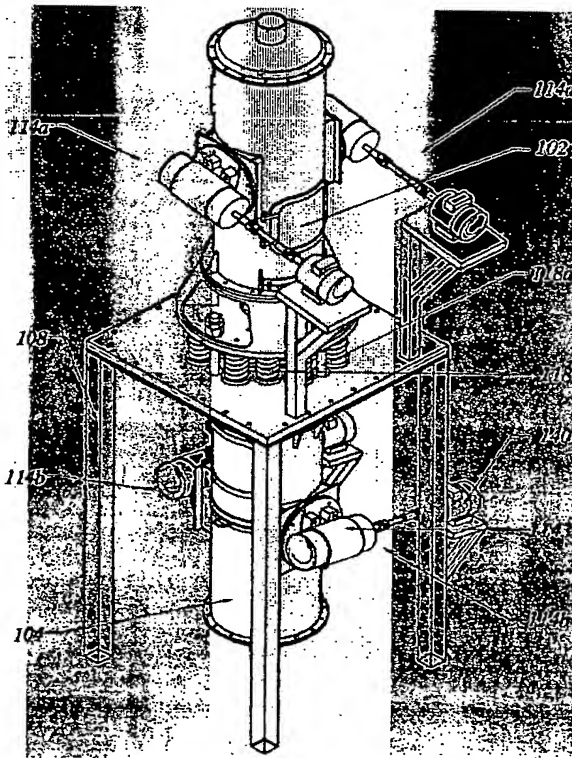
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(54) Title: VERTICAL SYMMETRICAL VIBRATING MILL



(57) Abstract: A vertical symmetrical vibrating mill that includes a top vibrating tube and a bottom vibrating tube. The top vibrating tube and the bottom vibrating tube are connected so as to form a single vibrating body. The single vibrating body is supported and/or suspended by a support element. The top vibrating tube and the bottom vibrating tube are located on opposite sides of, and are substantially symmetrical about, a reference plane of symmetry. The top vibrating tube and the bottom vibrating tube each have a common axis that is perpendicular to the reference plane of symmetry. In operation, the vibrating mill is preferably arranged such that the common axis of the top vibrating tube and the bottom vibrating tube is oriented in a direction corresponding to the direction of gravity. The vertical symmetrical vibrating mill also includes a plurality of exciter elements including at least one exciter element connected to each of the top vibrating tube and the bottom vibrating tube. Each one of the exciter elements is configured to cause an excitation of the vibrating tubes in a direction that is substantially tangential to the vibrating tubes. Each one of the exciter elements is configured to at least one revolve and oscillate at the same synchronized frequency. An amount of power that is provided to each one of the exciter elements is directly proportional to a distance between the exciter element and the reference plane of symmetry.